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Administrative Committee of the European Agreement Concerning the International Carriage of Dangerous Goods by Inland Waterways (ADN)

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Draft amendments to the Regulations annexed to ADN*

Addendum

Chapter 1.2

1.2.1 Add the following definition:

"UN Regulation means a regulation annexed to the Agreement concerning the adoption of uniform technical prescriptions for wheeled vehicles equipment and parts which can be fitted and or used on wheeled vehicles and the conditions for reciprocal recognition of approvals granted on the basis of these prescriptions (1958 Agreement, as amended);".

Chapter 1.6

1.6.1 Add the following transitional provision:

"1.6.1.47 Lithium cells and batteries not meeting the requirements of 2.2.9.1.7 (g) may continue to be carried until 31 December 2019."

1.6.7.4.2 Delete and insert "1.6.7.4.2 *(Deleted)*".

Chapter 2.1

2.1.5 Add the following Note at the beginning:

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"NOTE 1: For articles which do not have a proper shipping name, other than UN 3537 to 3548 and which contain only dangerous goods within the permitted limited quantity amounts specified in Column (7a) of Table A of Chapter 3.2, see UN No. 3363 and special provisions 301 and 672 of Chapter 3.3.".

Chapter 2.2

2.2.9.2 In the first indent, replace "special provisions 188, 230, 310 or 636 of Chapter 3.3" by "special provisions 188, 230, 310, 636 or 670 of Chapter 3.3".

Chapter 3.2, Table A

For UN Nos. 1002, 1006, 1013, 1046, 1056, 1058, 1065, 1066, 1952, 1956, 3070, 3163, 3297, 3298 and 3299, insert "660" in column (6).

For UN No. 2071, in column (6) delete "186".

Chapter 5.2

5.2.1.5 Amend the second sentence to read as follows:

"The mark, which shall be clearly legible and indelible, shall be in one or more languages, one of which must be French, German or English, unless any agreements concluded between the countries concerned in the transport operation provide otherwise.".

5.2.2.2.1.1.2 Replace the second and third sentences by "The minimum dimensions shall be 100 mm x 100 mm. There shall be a line inside the edge forming the diamond which shall be parallel and approximately 5 mm from the outside of that line to the edge of the label.".

5.2.2.2.1.6 (d) Replace "for gases of UN Nos. 1011, 1075, 1965 and 1978" by "for liquefied petroleum gases".

Chapter 5.3

5.3.1.7.1 The amendments to the second paragraph in the French version do not apply to the English text.

5.3.1.7.1 At the end, add the following sentence: "The deviations specified in 5.2.2.2.1, second sentence, 5.2.2.2.1.3, third sentence and 5.2.2.2.1.5 for danger labels also apply to placards."

5.3.2.3.2 Amendments to the French version do not apply to the English text.

5.3.3 The amendment to the French version does not apply to the English text.

Chapter 5.4

5.4.2 Add the following Note after the heading:

"NOTE: For the purposes of this section the term "vehicle" includes wagon.".

Chapter 7.1

7.1.0.1 Replace "7.1.6" by "7.1.7".

7.1.6 Replace "7.1.6.17 to 7.1.7.99 *(Reserved)*" *by* "7.1.6.17 to 7.1.6.99 *(Reserved)*".

7.1 Add the following new 7.1.7:

"7.1.7 Special provisions applicable to the carriage of self-reactive substances of Class 4.1, organic peroxides of Class 5.2 and substances stabilized by temperature control (other than self-reactive substances and organic peroxides)

7.1.7.1 All self-reactive substances, organic peroxides and polymerizing substances shall be protected from direct sunlight and all sources of heat, and placed in adequately ventilated areas.

7.1.7.2 Where a number of packages are assembled in a container or closed vehicle, the total quantity of substance, the type and number of packages and the stacking arrangement shall not create an explosion hazard.

7.1.7.3 *Temperature control provisions*

7.1.7.3.1 These provisions apply to certain self-reactive substances when required by 2.2.41.1.17, and certain organic peroxides when required by 2.2.52.1.15 and certain polymerizing substances when required by 2.2.41.1.21 or special provision 386 of Chapter 3.3 which may only be carried under conditions where the temperature is controlled.

7.1.7.3.2 These provisions also apply to the carriage of substances for which:

(a) The proper shipping name as indicated in column (2) of Table A of Chapter 3.2 or according to 3.1.2.6 contains the word "STABILIZED"; and

(b) The SADT or SAPT determined for the substance (with or without chemical stabilization) as offered for carriage is:

(i) 50 °C or less for single packagings and IBCs; or

(ii) 45 °C or less for tanks.

When chemical inhibition is not used to stabilize a reactive substance which may generate dangerous amounts of heat and gas, or vapour, under normal carriage conditions, this substance needs to be carried under temperature control. These provisions do not apply to substances which are stabilized by the addition of chemical inhibitors such that the SADT or the SAPT is greater than that prescribed in (b) (i) or (ii), above.

7.1.7.3.3 In addition, if a self-reactive substance or organic peroxide or a substance the proper shipping name of which contains the word "STABILIZED" and which is not normally required to be carried under temperature control is carried under conditions where the temperature may exceed 55 °C, it may require temperature control.

7.1.7.3.4 The "control temperature" is the maximum temperature at which the substance can be safely carried. It is assumed that during carriage the temperature of the immediate surroundings of the package does not exceed 55 °C and attains this value for a relatively short time only during each period of 24 hours. In the event of loss of temperature control, it may be necessary to implement emergency procedures. The "emergency temperature" is the temperature at which such procedures shall be implemented.

7.1.7.3.5 Derivation of control and emergency temperatures

Type of receptacle	SADT[a]/SAPT[a]	Control temperature	Emergency temperature
Single packagings and IBCs	20 °C or less over 20 °C to 35 °C over 35 °C	20 °C below SADT/SAPT 15 °C below SADT/SAPT 10 °C below SADT/SAPT	10 °C below SADT/SAPT 10 °C below SADT/SAPT 5 °C below SADT/SAPT
Tanks	≤ 45 °C	10 °C below SADT/SAPT	5 °C below SADT/SAPT

[a] i.e. the SADT/SAPT of the substance as packed for carriage.

7.1.7.3.6 The control and emergency temperatures are derived using the table in 7.1.7.3.5 from the SADT or from the SAPT which are defined as the lowest temperatures at which self-accelerating decomposition or self-accelerating polymerization may occur with a substance in the packaging, IBC or tank as used in carriage. An SADT or SAPT shall be determined in order to decide if a substance shall be subjected to temperature control during carriage. Provisions for the determination of the SADT and SAPT are given in Part II, section 28 of the Manual of Tests and Criteria.

7.1.7.3.7 Control and emergency temperatures, where appropriate, are provided for currently assigned self-reactive substances in 2.2.41.4 and for currently assigned organic peroxide formulations in 2.2.52.4.

7.1.7.3.8 The actual carriage temperature may be lower than the control temperature but shall be selected so as to avoid dangerous separation of phases.

7.1.7.4 *Carriage under temperature control*

7.1.7.4.1 Maintenance of the prescribed temperature is an essential feature of the safe carriage of substances stabilized by temperature control. In general, there shall be:

(a) Thorough inspection of the cargo transport unit prior to loading;

(b) Instructions to the carrier about the operation of the refrigeration system including a list of the suppliers of coolant available en route;

(c) Procedures to be followed in the event of loss of control;

(d) Regular monitoring of operating temperatures; and

(e) Provision of a back-up refrigeration system or spare parts.

7.1.7.4.2 Any control and temperature sensing devices in the refrigeration system shall be readily accessible and all electrical connections weather-proof. The temperature of air space within the cargo transport unit shall be measured by two independent sensors and the output shall be recorded so that temperature changes are readily detectable. The temperature shall be checked every four to six hours and logged. When substances having a control temperature of less than +25 °C are carried, the cargo transport unit shall be equipped with visible and audible alarms, powered independently of the refrigeration system, set to operate at or below the control temperature.

7.1.7.4.3 If during carriage the control temperature is exceeded, an alert procedure shall be initiated involving any necessary repairs to the refrigeration equipment or an increase in the cooling capacity (e.g. by adding liquid or solid refrigerants). The temperature shall also be checked frequently and preparations made for implementation of the emergency procedures. If the emergency temperature is reached, the emergency procedures shall be initiated.

7.1.7.4.4 The suitability of a particular means of temperature control for carriage depends on a number of factors. Factors to be considered include:

(a) The control temperature(s) of the substance(s) to be carried;

(b) The difference between the control temperature and the anticipated ambient temperature conditions;

(c) The effectiveness of the thermal insulation;

(d) The duration of carriage; and

(e) Allowance of a safety margin for delays.

7.1.7.4.5 Suitable methods for preventing the control temperature being exceeded are, in order of increasing control capability:

(a) Thermal insulation provided that the initial temperature of the substance(s) to be carried is sufficiently below the control temperature;

(b) Thermal insulation with coolant system provided that:

(i) An adequate quantity of non-flammable coolant (e.g. liquid nitrogen or solid carbon dioxide), allowing a reasonable margin for delay, is carried or a means of replenishment is assured;

(ii) Liquid oxygen or air is not used as coolant;

(iii) There is a uniform cooling effect even when most of the coolant has been consumed; and

(iv) The need to ventilate the transport unit before entering is clearly indicated by a warning on the door(s) of the transport unit;

(c) Thermal insulation and single mechanical refrigeration provided that for substance(s) to be carried with a flash point lower than the sum of the emergency temperature plus 5 °C explosion-proof electrical fittings, EEx IIB T3 are used within the cooling compartment to prevent ignition of flammable vapours from the substances;

(d) Thermal insulation and combined mechanical refrigeration system with coolant system; provided that:

(i) The two systems are independent of one another;

(ii) The provisions in (b) and (c) are complied with;

(e) Thermal insulation and dual mechanical refrigeration system; provided that:

(i) Apart from the integral power supply unit, the two systems are independent of one another;

(ii) Each system alone is capable of maintaining adequate temperature control; and

(iii) For substance(s) to be carried with a flash point lower than the sum of the emergency temperature plus 5 °C explosion-proof electrical fittings, EEx IIB T3 are used within the cooling compartment to prevent ignition of flammable vapours from the substances.

7.1.7.4.6 The methods described in 7.1.7.4.5 (d) and (e) may be used for all organic peroxides and self-reactive substances and polymerizing substances.

The method described in 7.1.7.4.5 (c) may be used for organic peroxides and self-reactive substances of Types C, D, E and F and, when the maximum ambient temperature

to be expected during carriage does not exceed the control temperature by more than 10 °C, for organic peroxides and self-reactive substances of Type B and polymerizing substances.

The method described in 7.1.7.4.5 (b) may be used for organic peroxides and self-reactive substances of Types C, D, E and F and polymerizing substances when the maximum ambient temperature to be expected during carriage does not exceed the control temperature by more than 30 °C.

The method described in 7.1.7.4.5 (a) may be used for organic peroxides and self-reactive substances of Types C, D, E and F and polymerizing substances when the maximum ambient temperature to be expected during carriage is at least 10 °C below the control temperature.

7.1.7.4.7 Where substances are required to be carried in insulated, refrigerated or mechanically-refrigerated vehicles or containers, these vehicles or containers shall satisfy the requirements of Chapter 9.6 of ADR.

7.1.7.4.8 If substances are contained in protective packagings filled with a coolant, they shall be loaded in closed or sheeted vehicles or closed or sheeted containers. If the vehicles or containers used are closed they shall be adequately ventilated. Sheeted vehicles and containers shall be fitted with sideboards and a tailboard. The sheets of these vehicles and containers shall be of an impermeable and non-combustible material.".

7.1.7 Insert "7.1.7.5 to 7.1.9.99 *(Reserved)*".